

In the Claims:

1. (Previously presented) A method of data retrieval comprising the steps of:
 - providing a first memory circuit;
 - providing a stride prediction table (SPT) that is indexed with cache line miss information;
 - providing cache memory circuit;
 - executing instructions for accessing data within the first memory;
 - detecting a cache miss;
 - only allowing accesses to the SPT in response to the detection of a cache miss;and
 - only allowing updates to the SPT in response to the detection of a cache miss.
2. (Original) A method according to claim 1 wherein the cache memory circuit is a stream buffer.
3. (Original) A method according to claim 1 wherein the cache memory circuit is a random access cache memory.
4. (Original) A method according to claim 1 wherein the cache memory circuit and the SPT are within a same physical memory space.
5. (Original) A method according to claim 1 wherein the first memory is an external memory circuit separate from a processor executing the instructions.
6. (Original) A method according to claim 1 wherein the step of detecting a cache miss includes the steps of determining whether an instruction being executed by the processor is a memory access instruction, when the instruction is a memory access instruction, determining whether data at a memory location of the memory access instruction is present within the cache; and when the data is other than present within the cache, detecting a cache miss.

7. (Original) A method according to claim 1 wherein the step of detecting a cache miss includes the steps of determining whether an instruction to be executed by the processor is a memory access instruction; when the instruction is a memory access instruction, determining whether data at a memory location of the memory access instruction is present within the cache; and, when the data is other than present within the cache, detecting a cache miss, and accessing and updating the SPT only when the cache miss has occurred.

8. (Previously presented) A method according to claim 1, wherein the step of allowing access provides a step of filtering that prevents unnecessary access and updates to entries within the SPT.

9. (Original) A method according to claim 1, wherein the cache memory circuit is integral with the processor executing the instructions.

10. (Previously presented) A method according to claim 1, wherein the SPT comprises an address field, and where a size of the address field is less than an address space used to index the SPT.

11. (Previously presented) An apparatus comprising: a stride prediction table (SPT) that is indexed with cache line miss information; and, a filter circuit for use with the SPT, the filter circuit preventing both accesses and updates to the SPT unless a cache miss is detected.

12. (Original) An apparatus according to claim 11 comprising a memory circuit, the memory circuit for storing the SPT therein.

13. (Original) An apparatus according to claim 12 comprising a cache memory, the cache memory residing within the memory circuit.

14. (Original) An apparatus according to claim 13, wherein the memory circuit is a single ported memory circuit.
15. (Previously presented) An apparatus according to claim 13, wherein the memory circuit is a random access memory circuit.
16. (Previously presented) An apparatus according to claim 11, wherein the cache memory circuit is a stream buffer.
17. (Previously presented) A method of data retrieval comprising the steps of:
 - providing a first memory circuit;
 - providing a stride prediction table (SPT) that is indexed with cache line miss information;
 - providing cache memory circuit;
 - executing instructions for accessing data within the first memory;
 - detecting a cache miss; and
 - restricting accesses to the SPT in response to the detection of a cache miss.
18. (Previously presented) A method according to claim 17, wherein the step of restricting provides a step of filtering that prevents unnecessary access and updates to entries within the SPT.
19. (Previously presented) A method according to claim 17, wherein the cache memory circuit is integral with the processor executing the instructions.
20. (Previously presented) A method according to claim 17, wherein the SPT comprises an address field, and where a size of the address field is less than an address space used to index the SPT.

21. (New) A method of data retrieval, the method comprising:
- providing a first memory circuit;
 - providing a single-ported SRAM memory having a cache memory circuit and a stride prediction table (SPT) that is indexed with cache line miss information;
 - in a filter circuit,
 - receiving an application stream having a plurality of access instructions for accessing data in the first memory circuit,
 - for each of the plurality of access instructions that are load access instructions,
 - accessing the cache memory to determine whether data at a memory location of the load access instruction is present within the cache, and
 - when the data is other than present within the cache, detecting a cache miss for the load access instruction,
 - restricting accesses and updates to the SPT to only load memory access instructions for which a cache miss is detected;
 - in response to an update to the SPT indicative of one of said detected cache misses, executing instructions to access the SPT and predict a cache miss; and
 - in response to a predicted cache miss, control the loading of a stream cache based upon the memory location of the load access instruction.